



## **Soil erosion influenced by wildfire and pre-fire plantation method in NW Spain**

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Erosion is a major concern in areas affected by high-severity wildfires. Soil characteristics associated with past forestry management can play a significant role in post-wildfire soil loss through increments in soil erodibility or as a result of sediment exhaustion. In areas such as NW Spain where there is a long history of intensive land use, this factor may be critical for explaining soil loss after wildfire. The objective of this study was to determine whether plantation method can significantly influence soil loss in the first year after wildfire in a *P. sylvestris* plantation affected wildfire in NW Spain. For these purpose, we measured hillslope-scale sediment production rates and site characteristics during the first year after wildfire in 30 plots. Treatments consisted in pre-fire ploughing+ wildfire, plantation holes+ wildfire and no preparation method+wildfire. Soil burn severity was high as average. During the first year following fire, soil losses varied from 0.9 t/ha in the ploughed areas to 4.6 t/ha in the plantation wholes. The treatment with no terrain preparation yielded 3.0 t/ha during the same period of time. These results suggest that pre-fire ploughed areas are not a priority for soil erosion risk mitigation after wildfire. The study was funded by the National Institute of Agricultural Research of Spain (INIA) through project RTA2014-00011-C06-02, cofunded by FEDER and the Plan de Mejora e Innovación Forestal de Galicia (2010-2020) and INDITEX.